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Richard Van Court Carr, et al..

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GROUP

(37 CFR 1.98(b))

U.S. PATENT DOCUMENTS

EXAM- INER INITIAL	DOCUMENT NUMBER								DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	0	0	5	9	7	1	0		3/27/2003	Inoue	430	270.1	
	0	0	0	4	5	7	0		1/10/2002	A. Zampini, et al.	526	257	2/23/2001
	0	0	5	1	9	3	6		5/2/2002	Y. Harada, et al.	430	270.1	9/7/2001
	0	0	5	5	0	6	0		5/9/2002	G. N. Taylor, et al.	430	270.1	9/8/2001
	0	0	6	1	4	6	4		5/23/2002	T. Aoi, et al.	430	270.1	9/25/2001
	6	2	9	1	1	3	0		9/18/2001	K. Kodama, et al.	430	270.1	7/27/1999
	6	4	0	6	8	2	8		6/18/2002	C. R. Szmanda, et al.	430	270.1	2/24/2000

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER								DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
														YES	NO
	JP	2	1	7	9	7	3	1			Japan (Abstract)			X	
	WO	0	2	3	1	5	9	5			World			X	
	EP	1	1	0	3	8	5	6			Europe			X	
	EP	1	1	2	6	3	2	2			Europe			X	
	WO	0	0	1	7	7	1	2			World			X	
	WO	0	0	6	7	0	7	2			World			X	
	WO	0	1	6	3	3	6	2			World			X	
	WO	0	1	8	5	8	1	1			World			X	
	WO	0	2	2	1	2	1	2			World			X	
	WO	0	2	2	1	2	1	3			World			X	
	WO	0	2	2	1	2	1	4			World			X	
	WO	0	2	2	1	2	1	6			World			X	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

		Hiroshi Ito, et al., "Synthesis and Evaluation of Alicyclic Backbone Polymers for 193 nm Lithography", American Chemical Society, 1998.
		Hiroshi Ito, et al., "Aliphatic Platforms for the Design of 157 nm Chemically Amplified Resists", SPIE Proceedings, Vol. 4690 (2002), 18-28.
		M. M. Dhirga, et al., "Polymerization of 1,1,1-Trifluoroacetone with Aliphatic Secondary Amines. A Proton and Fluorine Magnetic Resonance Investigation," Organic Magnetic Resonance, Vol. 9, No. 1 (1977), pp. 23-28.
		H. E. Simmons, et al., "Fluoroketones" The Central Research Department Station, E. I. du Pont de Nemours and Co., Vol. 82 (1959), pp. 2288-2296.
		E. T. McBee, et al., "The Chemistry of 1,1,1-Trifluoropropanone. II. The Reactions of 4-Methyl-1,1,1,5,5,5-hexafluoro-3-penten-2-one with Methylmagnesium Iodide," The Department of Chemistry, Purdue University (1956), pp. 4597-4598.
		A. L. Henne, et al., "Trifluoromethylated Butadienes," The Department of Chemistry at The Ohio State University (1954), pp. 5147-5148.
		K. J. Pryzbilla, et al., "Hexafluoroacetone in Resist Chemistry: A Versatile New Concept for Materials for Deep UV Lithography," SPIE Advances in Resist Chemistry and Process IX Vol. 1672 (1992).
		M. K. Crawford, et al., "New Materials for 157 nm Photoresists: Characterization and Properties," SPIE Advances in Resist Chemistry and Processing IX Vol. 3999 (2000).
		R. R. Dammel, et al., "New Resin Systems for 157 nm Lithography," Journal of Photopolymer Science and Technology, Vol. 14 No. 4 (2001).
		H. Ito, et al., "Development of 157 nm Positive Resists," J. Vac. Sci. Technol. B 19(6) (2001).
		H. Ito, "Dissolution Behavior of Chemically Amplified Resist Polymers for 248-, 193-, and 157-nm Lithography," J. Res. & Dev. Vol. 45 No. 5 (2001).
		S. Cho, et al., "Investigation of a Fluorinated ESCAP based resist for 157 nm Lithography," (2001).
		K. Patterson, et al., "The Challenges in Materials Design for 157 nm Photoresists," Lithography, Solid State Technology, pp. 41-48 (2000).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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137:54625 Chemically amplified positive resists, lithography thereon, and polymers therefor. Harada, Yuji; Watanabe, Atsushi; Hatakeyama, Jun; Kawai, Yoshio; Sasako, Masaru; Endo, Masataka; Kishimura, Shinji; Otani, Michitaka; Miyazawa, Satoru; Tsutsumi, Kentaro; Maeda, Kazuhiko (Shin-Etsu Chemical Industry Co., Ltd., Japan; Matsushita Electric Industrial Co., Ltd.; Central Glass Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 2002179731 A2 20020626, 25 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-383217 20001218.

AB The resists, showing excellent transparency against F2 excimer lasers, comprise polymers bearing CO₂CR₁R₂R (R₁, R₂ = H, F, C₁-20 alkyl; R = C₃-20 cyclic alkyl), org. solvents, and photoacid generators. In the lithog., the resist films are annealed and exposed to .gtoreq.300-nm high energy beams via photomasks. The resist patterns show excellent resolu. and plasma etching resistance and are useful for microfabrication of LSI.